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Review article

Deregulatory Takings and the Regulatory Contract

J. Gregory Sidak, Daniel F. Spulber; Cambridge University Press, Cambridge, UK, 1998, pp. 631 + xx. \$59.95 (hardcover), \$23.95 (cloth). ISBN 0-521-658-713

1. Introduction

Deregulatory Takings and the Regulatory Contract by J. Gregory Sidak and Daniel F. Spulber deserves an extensive review and a detailed evaluation. The authors present the most comprehensive argument for stranded cost recovery in local telephone service and electricity supply that has been developed to date. They skillfully incorporate their position into the framework of neoclassical economics so that compensation for the confiscation of capital becomes an integral part of the promotion of efficiency through reliance on market-driven competition as a substitute for commission regulation. Concurrently, Sidak and Spulber (1998) vigorously criticize public policies designed to achieve this goal. They are particularly critical of the Federal Communications Commission's (FCC) attempts to fix access prices for mandatory interconnection between competitors and the incumbent local exchange carriers (ILECs). FCC costing and pricing practices, according to the authors, will promote inefficient entry, free riders, cross subsidization, and adverse income transfers that will unduly burden utility shareholders. The investor's right to recover stranded costs arising from deregulation, and the right to full recovery of common costs associated with mandatory interconnection are propositions fundamental to the Sidak and Spulber argument. Yet this discussion devotes little attention to an empirical assessment of the size or significance of stranded and common costs and their relationship to the unprecedented waves of mergers, acquisitions, and joint ventures that are transforming telecommunications and electricity.

2. Major features of the Sidak-Spulber model

A summarization of the Sidak and Spulber argument becomes a prerequisite for any subsequent evaluation. The authors develop their position at great length in their book which, in turn, represents a 631 page abridgement of their extensive writings and expert testimony.

Sidak and Spulber emphasize at the outset that a regulatory contract exists between the regulatory agency and the privately owned utility providing service. This contract reconciles the obligation to serve at just and reasonable rates with the investors' expectations regarding capital recovery and the right to earn a return on that capital. The promotion of competition through deregulatory policies (primarily removal of barriers to entry) is assumed to create a 'deregulatory taking' or confiscation of private property in the absence of just compensation. Just compensation

“... equals the difference between the present discounted value of net earnings expected under regulation and those expected under competition. For investors to be made whole, they should be compensated for the change in the firm’s present discounted value (PDV) of net earnings” (p. 277). Sidak and Spulber argue that the difference between PDV under regulation and PDV under competition is superior to an asset-by-asset approach in calculating stranded costs. They also note that a higher discount rate should be applied in calculating PDV under competition because of higher risk.

A breach of the regulatory contract does not necessarily occur when the state abolishes entry restrictions; rather, a breach occurs when the state abolishes entry restrictions without simultaneously imposing an alternative policy that will achieve the same cost recovery objective for which entry regulation was originally introduced. On the question of how long the regulatory contract should last, Sidak and Spulber state that the duration of the regulatory contract should conform to the economic life of the assets required to perform the service. The affected assets are market-specific, irreversible, and have a long service life. The authors assume that these assets were found to be prudent by the regulator when first placed in service.

Sidak and Spulber do not oppose the introduction of competition. In fact, they argue at length that the necessary conditions for natural monopoly have been erased by rapid technological change and the proliferation of alternative supply options, including multiple technologies, that create new opportunities for competitors. Furthermore, they dismiss the ‘essential facilities argument’ which states that a monopoly in one area will not only extract monopoly profits, but will also enjoy a competitive advantage in other markets. They believe this argument is no longer relevant because facilities such as the local loop face substitutes and there are many alternatives to the local wireline exchange network such as cable, wireless, and competitive access providers.

When open access is accompanied by the mandatory sale of unbundled network elements (UNEs) or the mandatory sale of a service to a competitor for resale, the ILEC produces an input that both the ILEC and its rivals will use to serve the final market. Sidak and Spulber argue that the efficient component pricing rule (ECPR) or the market-determined efficient component pricing rule (M-ECPR) must be used to price inputs. ECPR includes all relevant incremental costs plus associated opportunity costs. Opportunity costs refer to the potential earnings that an ILEC forgoes by selling inputs to competitors; that is, the forgone profit on lost business. M-ECPR arises when the ILEC faces competition from other facility-based carriers. Under M-ECPR, the price for an unbundled network element will be based on the entrant’s stand alone cost of producing its own unbundled element. This follows because the M-ECPR cannot exceed the entrant’s stand alone cost of supplying its own element utilizing the best available technology.

Sidak and Spulber argue at length that the entrant’s ability to purchase UNEs from other suppliers or to engage in self-supply can prevent the ILEC from recovering its forward-looking common costs. This deficiency again constitutes a form of confiscation or a regulatory taking unless corrected. The solution, according to the authors, requires a competitively neutral, non-bypassable end user charge that will permit recovery of common costs together with any other burdens imposed on the ILEC (such as regulated prices set below incremental costs). Accordingly, a system of end user charges must accompany the pricing of wholesale services and unbundled network elements.

ECPR has received a great deal of criticism and the authors respond to this criticism at length. They dismiss the argument that ECPR carries forward a monopoly profit by noting that monopoly profits are a matter for direct regulatory intervention and should not be treated through distortions in the application of access charges. Similarly, they seek to demonstrate that ECPR and M-ECPR will not limit competitive entry by efficient firms and will be responsive to changes in efficiency over time.

Sidak and Spulber then turn this discussion of proper access pricing to a vigorous denunciation of the FCC's concept of TELRIC (total element long-run incremental cost) and the general application of TSLRIC (total service long-run incremental cost). They seek to show that these concepts will not create efficient competition, but rather will create incorrect pricing guidelines that invite free riders and subsidized entry. The authors then proceed to attack the FCC's approach toward recovering forward-looking common costs. They deplore the Commission's dismissal of Ramsey pricing in favor of a fixed markup or a percentage markup to cover common costs. By requiring ILECs to recover such costs by raising prices in the most elastic market for elements, Sidak and Spulber believe that "... the FCC (has) condemned the LEC to insolvency" (p. 341). In passing, it should be noted that the FCC dismissed Ramsey pricing because it was assumed that the Telecommunications Act of 1996 required a cost-based rather than a demand-based approach to allocation.

Throughout this lengthy discussion of regulatory takings, breach of regulatory contract, stranded cost recovery, and proper access pricing, there can be little doubt that the authors view the state (particularly the regulator) as a major factor that will denigrate the general welfare if given an opportunity. The state initiates open access and then confiscates the property of incumbents. The state imposes 'regulatory quarantines' that forbid incumbent utilities and carriers from entering competitive markets, thereby denying them the ability to realize economies of scope and vertical integration. At the same time, such quarantines foreclose broadened consumer choice and the ability of competitors to provide one-stop shopping. The state also imposes burdens on the incumbent that lead to uneconomic bypass, supposedly uneconomic costing practices (e.g., Part 64 of the FCC Rules), and the introduction of uneconomic services. Indeed, Sidak and Spulber argue that if the state were to reduce the burdens that it places on incumbents the net effect could be a reduction in the size of stranded cost.

It is hardly surprising, therefore, that the authors dismiss the public interest theory of regulation and, at least through passing reference, provide some endorsement to the possibility of regulatory capture or concessions to special interest pressures in regulatory decision-making. Similarly, this fear of regulatory opportunism, or perhaps more appropriately rogue regulation, is evident in their various recommendations for various public policies. For example, they endorse securitization of stranded costs because this minimizes the opportunities for regulatory manipulation of stranded cost recovery at a later date.¹ It also explains why the authors are resistant to concepts such as social opportunity costs which they fear could lead to expanded state intervention.

¹ Securitization of stranded cost involves the creation of a trustee who issues bonds to cover the stranded costs. The trustee gives the proceeds from the sale of the bonds to the utility as an up-front payment. The utility, in turn, imposes a stranded cost recovery charge against ratepayers, collects the proceeds, and transfers them to the trustee. These funds are used to pay both principal and interest on the bonds. It is argued that trustee bonds are less costly than if the asset remained on the utility's books and earned a full rate of return.

The Sidak and Spulber model will be examined with reference to four major points. First, does the regulatory contract represent a well-established principle in public utility regulation and public utility law? Second, does the calculation of stranded cost as envisioned by the authors build on a methodology that produces reasonably determinate results? Third, does available information provide evidence of the confiscation of shareholder wealth as a result of deregulation programs? Fourth, what effect will the major changes transforming telecommunications and electricity have on the role and function of stranded cost recovery and access pricing?

3. Is there a well-established precedent for the regulatory contract?

A review of public utility texts over the period 1927–1961 reveals no clear discussion of a regulatory contract *per se*. Furthermore, there is little discussion of the recovery of stranded costs or costs associated with withdrawal from a regulated service that could be interpreted to imply the existence of a regulatory contract. For example, Glaeser discusses both the rights and duties of a public utility. With respect to the rights of the firm, Glaeser notes that the utility has the right to collect a reasonable price for its services and the right to withdraw service under prescribed conditions, but there is no indication that the regulatory contract exists as part of a reciprocal obligation for rendering service (Glaeser, 1927; pp. 174–175). Bonbright (1961, p. 157) notes that “...regulatory policy, following common law traditions, has insisted on retaining material flexibility as to the measurement of a fair return. Investors in utility securities ... must therefore take their chances as to the effect of future rate cases or even of some future amendments to regulatory law, on the earning power of the companies in which they invest”.² Similarly, Glaeser’s discussion of ‘analysis of the investment bargain’ arrives at essentially the same conclusion about the inherent risks involved in future rate cases and changes in regulatory law, but neither Bonbright nor Glaeser specify the regulatory contract as a form of investor protection. There is also no mention of the regulatory contract in the public utility texts by Troxel (1947) and Clemens (1950).

Sidak and Spulber seek to find evidence of a regulatory contract in early examples of franchise regulation but the results are far from convincing. A great variety of franchises were developed toward the end of the 19th century. There were perpetual franchises, long-term franchises, short-term franchises, sliding-scale franchises, and service-at-cost franchises. The terms and conditions of each type differed significantly and displayed no coherent pattern. Perhaps the most sophisticated franchise was the indeterminate permit, which was a franchise that could be terminated at any time with a payment for the value of the property as determined by the regulatory commission. This would probably be based on the original cost of the assets. The commission

² In passing, this reviewer must take exception to the statement of Sidak and Spulber (1998) statement that “Stelzer is the intellectual successor to James C. Bonbright...” (p. 431). While the authors may interpret Bonbright (1961) and Stelzer as in agreement on a particular point — even though they were writing at different time periods — Bonbright and Stelzer are poles apart on the development and purpose of regulatory studies. Bonbright sought to make rate base/rate-of-return regulation into a body of objective principles that could serve to reconcile conflicting positions and promote the general welfare. For much of his career, Irwin Stelzer has been a leading witness for the utility industries and a founder and one-time head of a major consulting firm serving those industries.

could then grant another supplier a certificate to provide replacement service. This type of permit was hardly supportive of the concept of a regulatory contract.³

Reliance on franchise regulation as evidence of a regulatory contract is further weakened because of the precedent established by the *Charles River Bridge* case (1837). In that case the US Supreme Court held that the franchise was not an exclusive grant and that a similar grant could be given to a competitor even though the new franchise would probably reduce or destroy the value of the first grant. Sidak and Spulber, of course, take issue with the Court's decision, but the precedent remains.

Munn vs. Illinois (1877) was the landmark Supreme Court case setting forth the ability of the state to employ its police power to fix prices and, as a consequence, affect the value of the property providing the service. The majority decision is criticized by Sidak and Spulber, but this does not obscure the fact that the majority decision established the concept of a business affected with the public interest which, in turn, served as a basis for economic regulation. Such property was subject to the obligation to serve, but was given the opportunity to earn a fair rate of return. In the proliferation of cases that followed the *Munn* case, two principal tests were employed to determine whether property was affected with the public interest. These were: (1) the power of the firm to extort, and (2) the necessity of the service. The constraint on the states was the 14th Amendment of the US Constitution, not a specified regulatory contract. In the *Hope* case (1945) the method of regulation was subordinated to the doctrine of end result. That is, the end result of regulation was the criterion for judging the reasonableness of a regulatory action and not the regulatory techniques that were employed. The doctrine of end result continues to govern without any explicit or implicit recognition of a regulatory contract as a possible constraint.

While the utility must be given an opportunity to earn a fair return, it is not guaranteed a return. This is particularly true in the face of major changes in demand and the technology of supply. In the *Market Street Railway* case (1945), the obsolescence of plant and facilities together with changing patterns of usage drastically reduced the earnings of the street railway. The Supreme Court held that the carrier was not guaranteed a return under such circumstances and confiscation had not taken place. Sidak and Spulber state that this case does not invalidate their argument about stranded cost recovery and the regulatory contract because the costs were stranded due to economic and technological change – not because of the decision of a regulatory agency. What Sidak and Spulber overlook is the fact that changes in demand and supply technologies have been a major driving force in the move toward deregulation and these pressures for change cannot be disassociated from the decision to deregulate. Assuming that no deregulatory action was taken by the regulator, it would still be impossible to maintain the status quo for all classes of customers (especially large buyers) in such a setting. Assets would be vulnerable to erosion but the process would be more protracted. Furthermore, any attempt to raise prices to recover stranded costs would only serve to make matters worse. This was demonstrated in the Western Union Company's

³ Clemens (1950, p. 76). Also, Glaeser (1957, pp. 177–118). In the *Waukesha Gas & Electric Co. v. Railroad Commission of Wisconsin* case (P.U.R. 1923 E634), the Wisconsin Supreme Court held that an indeterminate permit gave the municipality the power to take the utility's property upon paying just compensation as fixed by the Commission. The Court gave prime weight to investment cost (original cost) in determining compensation for property that was ascertained to be used and useful. The Court also recognized that a public hearing could be used to authorize certifying a second utility to provide service. There was no recognition of a regulatory contract.

attempts to salvage the message telegraph business in the 1950s and 1960s through rate increases at a time when telephone rates were declining.

4. Imprecision in the calculation of stranded costs

Sidak and Spulber set forth a straightforward model for calculating stranded cost. Their estimate of stranded cost is based on the difference between net revenue requirements under regulation (PDV of earnings under regulation) and the net revenue earnings of these facilities in a competitive market (PDV of earnings under competition). Only revenues from facilities that were released by the termination of the regulatory contract would be used to offset losses. No property acquired later as a part of diversification into nonregulated activities would be considered. Despite this apparent simplicity, measuring stranded costs under this model is fraught with problems.

Dealing first with the calculation of the net return under regulation, Sidak and Spulber argue that all investments that passed the prudence test at the outset should be exempt from a retroactive prudence review. This would be wasteful and any disallowances would raise transactions costs, raise the cost of capital, and result in shifting risks to the utility. Sidak and Spulber also believe that denying recovery of past investment would create an incentive to disinvest. However, this approach effectively ties the hands of the regulator who has an obligation to disallow all costs that do not pass the used-and-useful test. Otherwise, the consumer would be burdened with redundant and obsolete plant and facilities that would normally be removed as a part of the application of rate base/rate-of-return regulation. This action is especially necessary where there has been a significant regulatory lag. The absence of a stringent used-and-useful review would have the net effect of imposing a tax on end users to cover redundancy and obsolescence.

The adequacy of depreciation practices must also be viewed as part of the calculation of net revenues under regulation. The shift from vintage group depreciation to equal life group depreciation by the FCC should have corrected most of the past deficiencies but this cannot be determined without careful study. In addition, attention must be given to the huge accruals for deferred federal income taxes that have been built up under normalization. The potential for manipulating these accruals in the light of restructuring and holding company control over regulated and non-regulated entities is clearly apparent. Finally, the problem of attempting to determine the return on equity capital becomes increasingly complex when public utilities move toward becoming globalized, transnational corporations. The discounted cash flow model and the capital asset pricing model will have difficulty isolating the appropriate return on utility assets with diversification, and these difficulties will be compounded by the partially deregulated firm's incentive to declare all relevant information to be proprietary. In cases where there is evidence of poor planning by management, the calculation of the rate of return on equity could be modified to consider adopting the concept of a return of capital but no return on equity capital for such investment.

With respect to the estimation of the net return under competition, the problems become even more vexing. This calculation would have been greatly simplified if deregulation and open entry had been preceded by an across-the-board structural separation of regulated and deregulated assets and activities. For local telecommunications, some progress may be made following the Rochester Plan and the Pennsylvania Commission decision noted below. For interexchange carriers the time for mandatory structural separation has passed. The Federal Energy Regulatory

Commission (FERC) has required a functional separation of generation and transmission in wholesale power transactions, but this is a far cry from full structural separation and the creation of independent managerial and financial entities.

If one makes the heroic assumption that the future of electricity assets can be divided between ‘wire’ services and the production and sale of megawatt hours (MWH) through merchant generation, deregulated utility generation, and nonregulated marketers, then perhaps one could make some estimate of net revenues under competition. But such forecasts are precarious because they must estimate market share and future prices. Electricity prices are the most volatile prices on the New York Mercantile Exchange. Furthermore, these prices will swing widely between peak and off-peak periods. For example, the typical price for a megawatt hour ranges between US \$30–\$40, but in July 1999 this price rose to \$120–\$140 MWH in New York, and \$850–\$924 MWH in the Pennsylvania/New Jersey/Maryland area.

Imprecision stemming from the volatility and uncertainty of market prices can have a devastating impact on the accuracy of stranded cost calculations. As Kenneth Rose has shown in a case study of a large Eastern utility, a small deviation from the baseline market price projection can dramatically affect the net present value. Rose estimates that a difference of 15 percent above the baseline price would eliminate 75 percent of the stranded costs, while a difference of 15 percent below the baseline price would increase the stranded costs by 63 percent. A market price higher than the baseline (or a difference of 0.65 of a cent per kilowatt hour) would eliminate all stranded costs in his study. Rose is not attempting to implement the Sidak and Spulber model, but rather his calculations serve to show that the discounted value of future net revenues can significantly impact costs that might be classified as stranded.⁴

The problem of stranded cost calculation is further complicated by the sale of generating assets by utilities to new entrants. These new entrants (primarily outside utilities) are paying substantial premiums above book value for these assets. This premium undoubtedly reflects the monopoly profit inherent in the site value to be acquired. If one were to make an asset-by-asset comparison of stranded costs, then sales in excess of book value would eliminate such stranded costs for much of the electric utility industry, and, in fact, create a premium that should be shared with consumers. Between April 1996 and October 1999, investor-owned utilities sold \$25.6 billions in generating assets (excluding nuclear plants). In 93.4 percent of these sales, the sale price exceeded book value. In 1.5 percent, the sale price equaled book value, and in 1.5 percent it was below book value. Book values were not available for the balance.⁵ Whether this type of transaction can be accurately reflected in the Sidak and Spulber model remains to be determined. As noted earlier, Sidak and Spulber reject an asset-by-asset approach to the calculation of stranded costs.

Finally, there is the possibility that investors will be over-compensated when stranded cost allowances are made. Peter Bradford has argued that investors already have been amply compensated for risk in past returns on equity.⁶ Obviously, Sidak and Spulber would challenge this argument.

⁴ See Kenneth Rose (1997) presentation at NARUC meetings.

⁵ See Diane Moody (1999).

⁶ See Peter Bradford (1998; pp. 35–38). Bradford (1996) also presents a detailed history of regulatory landmarks which he states do not support the concept of a regulatory contract.

5. Has significant confiscation taken place?

If investors perceive that the confiscation of assets is taking place, this will be reflected in the stock prices of the public utilities. Stock prices reflect the overall performance of the firm as embodied in prospective earnings, current yields, overall asset integrity, and comparable earnings elsewhere. For the market price to be negatively affected by uncompensated stranded costs and unrecovered common costs, these factors must be of sufficient importance to denigrate performance. Sidak and Spulber point to a specific case where the announcement of competitive entry in 1994 drove down the equity value of California's electric utilities by 20 percent overnight. This apparently was related to the release of the so-called Blue Book calling for retail wheeling. However, this decline also coincided with a severe recession in Southern California, poor earnings by Edison International's Mission Energy affiliate, and pressures to close a nuclear unit. In any event, the decline was not sustained over time. On the other hand, the announcement of retail competition in New York had the reverse effect. Between 1996 and 1997, Con Edison's operating revenues increased by 2 percent, earnings per share increased by 0.7 percent, and book value per share increased by 3.3 percent, but the stock price increased by 40.8 percent following the announcement. During this period Con Edison made no major diversification moves into non-regulated activities.⁷

An examination of general patterns in utility stock prices for telecommunications and electric utilities is preferable to a case-by-case study. Such an examination reveals no across-the-board price decline that can be clearly imputed to the confiscation of stranded costs and common costs. On the contrary, stock prices have moved significantly higher over the past decade demonstrating general investor confidence.⁸ This can be shown by the pattern of price-earnings multiples and market-to-book (M/B) ratios in Table 1.

As a point of reference, the traditional regulatory criterion for judging a reasonable level of profit was a market-to-book ratio of 1.05–1.10. Between 1969–1978, AT&T's M/B ratio was 1.05. This contrasts sharply with the most recent M/B ratios for the regional Bell operating companies (RBOCs), AT&T, MCI WorldCom and Sprint. Whether these increases are attributable to the prospect of oligopoly profits or participation in the information revolution can be debated, but they do not reflect the burden of stranded and uncompensated costs on the performance of the firm. Electric utility shares have not experienced the same rapid price growth as the telephone carriers despite the efforts of utility executives to show that industry restructuring has created growth opportunities. Interestingly, at least six of the electric utilities actively participating in mergers, overseas diversification, and entry into new markets have not shown stock price increases.⁹ The *Wall Street Journal* describes this scene as follows: "The management is saying 'trust me', (and) the investors are saying 'show me'".¹⁰ The *Journal* further reports that selling off deregulated growth assets may not

⁷ Con Edison, Annual Report (1997)

⁸ It is important to note that these price patterns took place at the same time that public policy was moving toward pluralism and open access in electricity supply (following passage of the Public Utility Regulatory Policies Act of 1978 and a series of FERC discussions requiring open access) and open entry in telecommunications, including a selective relaxation of constraints on RBOCs — even though none of the RBOCs satisfied requirements for entry into interLATA long distance markets.

⁹ For a listing see: Kranhold (1999)

¹⁰ For a listing see: Kranhold (1999)

Table 1
Price/earnings ratios

	Price/earnings multiple		M/B ratio
	1989	1999 (yr. to date)	12 mos. ending 6/99
Electricity	10.6	15.4	1.63
Combination elec & gas	10.6	16.6	1.83
Telephone cos.	17.5	27.9	4.94
M/B ratio for selected telecommunications companies — 12 months ending 6/99			
Ameritech	6.34	GTE	6.91
AT&T	3.95	MCI WorldCom	2.93
Bell Atlantic	7.14	SBC	6.97
Bell South	6.40	Sprint	3.66

Source: C.A. Turner *Utility Reports*, September 1999.

be the proper way to maximize shareholder wealth. Thus, “... carving out assets could disrupt the way utilities deploy the tremendous cash generated by their regulated businesses”.¹¹ One finds uncertainty as to whether management’s programs will achieve their goals. One finds no evidence that the prospect of inadequate stranded cost recovery has impacted the general prices of utility shares. Of course, the general pattern of stock prices may not necessarily reflect the deregulatory takings described by Sidak and Spulber if they are overshadowed by gains from mergers, acquisitions, and diversification programs. But these takings, if they do exist, cannot be shown to be a burden on overall performance.

6. Realism and relevance in emerging market structures

Sidak and Spulber premise their discussion of the shift from regulated monopoly to competition on the assumption that post-restructured markets will be highly competitive. This belief stands in sharp contrast to what is actually happening in emerging market structures in network industries, where massive waves of mergers, consolidations, and cross industry acquisitions are taking place. As a result, tight oligopoly appears to be evolving as the representative deregulated market structure. This can be defined as the four leading firms, combined, having 60–100 percent of the market with significant barriers to entry remaining. Tight oligopoly gives the major players discretionary market power to capture or retain market share, participate in new technologies, and achieve long-term oligopolistic profits. The incumbent is no longer a price taker; rather, it can employ price to foreclose entry, retain existing customers, promote customer migration, facilitate entry into new markets, and establish price leadership patterns designed to constrain price wars. Market structure strategies involve acquisitions, vertical and horizontal mergers, collaborative

¹¹ See McGee and Smith (1999).

alliances and joint ventures. All of these strategies are being widely applied in telecommunications and electricity.¹²

Sidak and Spulber adopt a much narrower definition of market power in their discussion of takings and common cost recovery. Market power is identified as the ability of the firm to raise price above a competitive level without losing sales. When they do examine ECPR in terms of different market structures (contestability, Cournot-Nash, and product differentiation) the conclusions drawn invariably point toward prices falling below regulated prices whenever entry is efficient. Oligopolistic distortions are conspicuously absent.

With tight oligopoly, stranded cost recovery and access pricing take on new roles. First, stranded cost recovery becomes a barrier to entry that can foreclose new competitors. The oligopolist has the discretionary ability to deploy common and fixed costs among differentiated customer classes through a host of pricing strategies. The effect is to transform cross subsidization from Sidak and Spulber's concept (where cross subsidization involves shifting costs from residential customers to large users via sales to residential customers at prices less than incremental cost) to strategies directed toward transferring costs and risks in a fashion that maximizes market share. Stranded cost recovery can also serve as a barrier to entry by minimizing the residual portion of the supply price for retail electricity that is available as an inducement for competitive entry.¹³ Second, stranded cost recovery accelerates capital deployment — especially when incorporated with securitization. The result facilitates a shift of funds from traditional services to new markets and to mergers, acquisitions, and joint ventures which may or may not be consistent with the infrastructure responsibilities of network industries. Third, stranded cost recovery bestows advantages on the incumbent by strengthening its position as a supplier. Redundancies, obsolete plant, and past mistakes can be retired, or, more correctly, shifted forward to the consumer, leaving the incumbent in a comparatively strong position. This type of change is particularly applicable to nuclear power, where much of the cost disadvantage lies in large overheads.

Tight oligopoly will also affect access pricing. ECPR can be manipulated to prescribe threshold costs that will discourage entry. ECPR (particularly through the calculation of incremental costs) can be employed to spread the cost of new technology between targeted customers and residual basic service customers.¹⁴ Opportunity costs under ECPR or M-ECPR will become oligopoly profits forgone which will be directly related to the loss of market share.

In cases of bilateral oligopoly, a joint maximizing price will probably be difficult to ascertain, but it is reasonable to assume that any final bargain between an ILEC and an interexchange carrier will depend upon each player's assessment of the markets forgone by not arriving at a mutually advantageous agreement. This will be particularly relevant as the RBOCs seek to promote interLATA access to final customers while shielding their DSL modernization program from unbundling and resale. At the same time, they face the threat from AT&T's cable upgrades so there

¹² For a summary, see Trebing (1999; pp. 427–429).

¹³ This is particularly relevant when shopping credits are used to give electricity consumers a point of reference for judging competitive suppliers. The shopping credit is measured by taking the ceiling price and subtracting transmission and distribution charges and stranded cost recovery charges. The residual is the shopping credit against which entrants compete. If the stranded cost charge increases, the shopping credit must decrease.

¹⁴ The potential for manipulating incremental costs lies in the arbitrary classification of any portion of modernization costs and plant update costs as either sunk costs to be spread over all services or as a part of the incremental cost of a specific service.

will be an oligopolistic race to the final customer. For its part, AT&T will also try to employ the same strategy by demanding retail access from the ILEC while foreclosing resale of its own upgraded, broadband cable plant.

Of course, where there is an imbalance in bargaining power no agreement will emerge. This was demonstrated in the case of New Zealand, which Sidak and Spulber approvingly cite for adopting ECPR. New Zealand fully deregulated New Zealand Telecom in 1989. But the new entrant, Clear Communications, was never able to successfully negotiate an interconnection agreement with New Zealand Telecom. As of June 1999, New Zealand Telecom retains overwhelming dominance of the landline market. Clear Communications has virtually disappeared as a significant player and only Vodafone's wireless offering may emerge as an imperfect threat to the landline network.

The oligopoly problem is further exacerbated by permissive public policies toward mergers and acquisitions in the United States and Europe. At the same time, imposing ceiling prices or price cap regulation does little or nothing to negate oligopolistic pricing strategies or cross subsidization as long as these practices can operate under the ceiling price umbrella.

7. Conclusion

Sidak and Spulber have directed the reader's attention to the possibility of deregulatory takings during the current restructuring period. What they have not demonstrated is that these potential takings are significant enough to justify direct public intervention to protect existing investors over other stakeholders in the transition process. There are also three other points that the authors do not fully address.

First, no explicit distinction is made between stranded costs arising from plant and facilities rendered uneconomic because of competition or oligopolistic rivalry, and stranded costs arising from social policy directives, such as mandatory investment in pollution abatement and conservation programs. Few persons would argue against recovery of socially mandated costs by a general user charge if they no longer serve any function.

Second, the authors repeatedly refer to the flow of subsidization from long distance to local telephone service. This argument completely disregards the analyses by Richard Gabel (1992) and David Gabel (1990), which hold that telephone networks were traditionally designed and constructed to serve long-distance requirements, and more recently networks are being designed and constructed to meet the advanced requirements of large customers for broadband, high-speed voice-data services. In the earlier case local service supported the promotion of long distance and in the more recent case local service supported broadband expansion.

Third, the authors approach the topic of structural separation in a fashion that fails to give proper recognition to this concept's contribution to the promotion of competition. Sidak and Spulber believe that forced unbundling at uncompensatory prices will compel ILECs to resort to radical restructuring. This would result in separating ownership of the network from "... branded retailing activities and value added services" (p. 552). Sidak and Spulber believe that such divestiture may have value because the regulator would no longer be able to order the network to sell access at uncompensatory prices. They believe that it would also increase the value of assets by reducing regulatory control and, at the same time, give investors greater choice. It would also, they argue, permit RBOC entry into the long-distance market. What their discussion fails to recognize is

that full structural independence of the network, whether in telecommunications or in electricity, can be employed as a powerful tool to maximize the number of potential buyers and sellers able to deal with each other. Independence will create independent initiative, independent financing, and a lower cost of capital. With common carrier status it would foreclose efforts to restrict supply in order to raise price. This model is applicable to power grids and variants of the approach have already been applied or ordered in local telephone service. The Rochester Plan (introduced in 1995) separates the local network from the parent holding company (Frontier). The former remains under regulation with an obligation to provide basic service and access. The latter is essentially deregulated and can provide a full range of offerings. The local network has successfully met challenges from AT&T and Time Warner, retaining 97 percent of the residential/small business customers and 95 percent of business customers (as of early 1999). Acquisition of Frontier by Global Crossing will not change the relationship between the local network and the parent. A second approach stems from the Pennsylvania Commission's 1999 Order directing structural separation of the local telephone network of Bell Atlantic Pennsylvania from retail sales to the final customer.¹⁵ The network would provide open access to all comers at the wholesale level. The separated marketer would compete with other competitive local exchange carriers for retail sales. Bell Atlantic has vigorously opposed this order. Both of these approaches have limitations, but they deserve consideration by the proponents of competition. This type of change could benefit all stakeholders, not simply investors.

Cases cited

- Charles River Bridge v. Warren Bridge*, 11 Peters 420 (1837).
Federal Power Commission v. Hope Natural Gas Co., 320 US 591 (1944).
Market Street Railway v. Railroad Commission of California, 324 US 548 (1945).
Munn v. Illinois, 94 US 113 (1877).
Wankesha Gas & Electric Co. V. Railroad Commission of Wisconsin P.U.R. 1923 Eb34 L1923.

References

- Bonbright, J. C. (1961). *Principles of public utility rates*. New York: Columbia University Press.
 Bradford, P. A. (with Biewald, B., Chemick, P. & Wallach, J.). (1996) Restructuring New Hampshire's electric utility industry: Stranded costs and market power. A Report for the New Hampshire Office of Consumer Advocate. Nov. 6, 1996.
 Bradford, P. A. (1998) Testimony of Peter A. Bradford on Behalf of the Maryland Office of People's Counsel. In the Matter of the Delmarva Power & Light Co's Proposed Stranded Cost Qualification Mechanism. Maryland Public Service Commission, Docket No. 8795, December 1998.
 Clemens, E. W. (1950). *Economics and public utilities*. Appleton-Century-Crofts.

¹⁵ See: Pennsylvania Public Utility Commission, Opinion and Order, Dockets No. P-00991648 and P-00991649, September 30, 1999.

- Gabel, D. J. (1990). Divestiture, spin-offs, and technological change in the telecommunications industry — a property rights analysis. *Harvard Journal of Law and Technology*, 3, 75–102.
- Gabel, R. (1992). The impact of premium telephone service on the typical design, operations and cost of local exchange plant. American Association of Retired Persons monograph.
- Glaeser, M. G. (1927). *Outlines of public utility economics*. New York: Macmillan.
- Glaeser, M. G. (1957). *Public utilities in American capitalism*. New York: Macmillan.
- Kranhold, K. (1999). ‘Electric utilities, eager to shed dinosaur label, stumble in wooing investors on new strategy. *Wall Street Journal*, 4/12/99, C-2.
- McGee, S., & Smith, R. (1999). For utilities, new power play involves IPOs for some units. *Wall Street Journal*, 11/26/99, C-1.
- Moody, D. (1999). *Investor-owned utility sales of generating assets*. Washington, DC: American Public Power Association.
- Pennsylvania Public Utility Commission. Opinion and Order, Docket No. P-00991648 and No. P-00991649. Order entered: September 30, 1999.
- Rose, K. (1997). Scrutinizing securitization: A ‘win-win solution’ or a catch 22 for consumers? Presentation at summer committee meeting of the committee on electricity, National Association of Regulatory Utility Commissioners. San Francisco, California, July 21.
- Sidak, J. C., & Spulber, D. F. (1998). *Deregulatory takings and the regulatory contract*. Cambridge: Cambridge University Press.
- Trebing, H. M. (1999). New challenges for the consumer movement in an era of utility deregulation, National Regulatory Research Institute. *Quarterly Bulletin*, 19(4), 425–434.
- Troxel, C. E. (1947). *Economics of public utilities*: Rinehart & Co.

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